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NOTICE OF ALLOWANCE AND FEE(S) DUE

23599 7590 12/07/2009

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
2200 CLARENDON BLVD.
SUITE 1400
ARLINGTON, VA 22201

EXAMINER

KRYLOVA, IRINA

ART UNIT

PAPER NUMBER

1796

DATE MAILED: 12/07/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,126

09/25/2006

Akira Funaki

KINOS-0002

7075

TITLE OF INVENTION: METHOD FOR PRODUCING TRANSPARENT POLYPROPYLENE BASED SHEET AND TRANSPARENT POLYPROPYLENE BASED SHEET

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	03/08/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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23599 7590 12/07/2009

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
2200 CLARENDON BLVD.
SUITE 1400
ARLINGTON, VA 22201

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,126 09/25/2006 Akira Funaki KINOS-0002 7075

TITLE OF INVENTION: METHOD FOR PRODUCING TRANSPARENT POLYPROPYLENE BASED SHEET AND TRANSPARENT POLYETHYLENE BASED SHEET

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	03/08/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
KRYLOVA, IRINA	1796	264-211120

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,126	09/25/2006	Akira Funaki	KINOS-0002	7075
23599	7590	12/07/2009	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			KRYLOVA, IRINA	
			ART UNIT	PAPER NUMBER
			1796	
DATE MAILED: 12/07/2009				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 423 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 423 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/594,126	FUNAKI ET AL.	
	Examiner	Art Unit	
	Irina Krylova	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/06/09.
2. ☒ The allowed claim(s) is/are 11-18 and 21-30.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>11/06/09</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

/Irina Krylova/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796

DETAILED ACTION

Examiner's amendment

The following claims are renumbered.

1. Claim 11 becomes **claim 1**.
2. Claim 12 becomes **claim 2**, depends on **claim 1**, reading:
"The manufacturing method according to claim 1..."
3. Claim 14 becomes **claim 3**, depends on **claim 2**, reading:
"The manufacturing method according to claim 2..."
4. Claim 18 becomes **claim 4**, depends on **claim 3**, reading:
"The manufacturing method according to claim 3..."
5. Claim 16 becomes **claim 5**, depends on **claim 2**, reading:
"The manufacturing method according to claim 2..."
6. Claim 13 becomes **claim 6**, depends on **claim 1**, reading:
"The manufacturing method according to claim 1..."
7. Claim 17 becomes **claim 7**, depends on **claim 6**, reading:
"The manufacturing method according to claim 6..."
8. Claim 15 becomes **claim 8**, depends on **claim 1**, reading:
"The manufacturing method according to claim 1..."
9. Claim 21 becomes **claim 9**, depends on **claim 1**, reading:
"The manufacturing method according to claim 1..."
10. Claim 22 becomes **claim 10**, depends on **claim 1**, reading:
"The manufacturing method according to claim 1..."

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11. Claim 23 becomes **claim 11**, depends on **claim 1**, reading:

“The manufacturing method according to claim 1...”

12. Claim 24 becomes **claim 12**, depends on **claim 1**, reading:

“The manufacturing method according to claim 1...”

13. Claim 25 becomes **claim 13**, depends on **claim 1**, reading:

“The manufacturing method according to claim 1...”

14. Claim 26 becomes **claim 14**, depends on **claim 1**, reading:

“The manufacturing method according to claim 1...”

15. Claim 27 becomes **claim 15**, depends on **claim 1**, reading:

“The manufacturing method according to claim 1...”

16. Claim 28 becomes **claim 16**, depends on **claim 1**, reading:

“The manufacturing method according to claim 1...”

17. Claim 29 becomes **claim 17**, depends on **claim 1**, reading:

“The manufacturing method according to claim 1...”

18. Claim 30 becomes **claim 18**, depends on **claim 17**, reading:

“The manufacturing method according to claim 17...”

Statement of Reasons for Allowance

19. The present claims are allowable over the “closest” prior art, namely **Yamaguchi et al** (JP 2003-170485) in view of **Fujimura et al** (JP 2002-144505).

20. Yamaguchi et al discloses a method for producing a transparent polypropylene sheet from a composition comprising 60-97% mass of polypropylene having an isotactic pentad fraction 0.85-0.99 and melt index 2-10g/10 min; 3-40% mass of a racemic polypropylene; and 4% mass of olefin copolymers ([0076], [0077]. [0016]), wherein the method comprises: a) melt extruding the composition; b) cooling for quenching the sheet ([0040], [0041]); c) heat treating the sheet at a temperature 70°C-175°C ([0045]).

21. Fujimura et al discloses a transparent polyolefin sheet produced by a method comprising melt extruding the polyolefin composition, followed by cooling using cooling roller ([0081]), wherein the composition comprises a propylene polymer and ethylene-alpha-olefin copolymer produced using metallocene catalyst and having a density of 0.86-0.91g/cc and a MFR of 1-50 g/10 min (Abstract).

22. However, **Yamaguchi et al** does not specify the olefin copolymer being ethylene-alpha-olefin copolymer produced using a metallocene catalyst and having density of 880-920 kg/m³ and MFR 1-30g/10 min. Though **Fujimura et al** discloses a transparent polyolefin sheet produced by a process comprising extrusion and cooling of polypropylene and ethylene-alpha-olefin copolymer produced using metallocene catalyst and having a density of 0.86-0.91g/cc and a MFR of 1-50 g/10 min (Abstract), however, the polypropylene and ethylene copolymer of **Fujimura et al** are in the form of a laminate rather than in a composition. Furthermore, **Fujimura et al** discloses a

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laminate having softnesss, wherein **Yamaguchi et al** teaches a method for producing a rigid sheet.

23. The instant invention discloses and claims a method for producing a polypropylene based sheet having good transparency and rigidity. As it is shown in Tables 1 and 2 of the instant invention, the use of metallocene-type ethylene-alpha olefin copolymer versus linear low density polyethylene improves impact strength and lowers the haze of the sheet. As it is presented in Tables 3 and 4 of the instant specification, heat treatment of the sheet after extrusion and cooling, further improves transparency. Therefore, both limitations, such as the use of metallocene-type ethylene-alpha olefin copolymer and heat treatment of the sheet after extrusion, are essential elements in the process of the instant invention.

24. Additional pertinent prior art has been uncovered in further search.

Hori et al (US 2001/0036544) discloses a method for producing film comprising extrusion ([0054]) a composition comprising: A) 50-99%wt of polypropylene resin having MFR of 0.1-50 g/10 min, heat of fusion 140 J/g; and B) 1-50%wt of metallocene -type ethylene copolymer having a density of 0.86-0.92 g/cc, MFR 0.1-30 g/10 min, MWD 1-5 (Abstract). However, **Hori et al** fails to teach the method further comprising cooling and heat treatment steps.

25. **Krabbenborg** (US 6,329,454) discloses polymer blend composition extruded into sheet, wherein the blend comprises A) 40-85 pbw of isotactic propylene polymer having

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MFR of 0.1-10 g/10 min ([col. 3, lines 43-52), and B) 10-55 pbw of metallocene ethylene interpolymer having a density of 0.85-0.97 g/cc; MFR of 0.001-50 g/10 min (col. 1, lines 60-65). The composition comprises improved toughness (col. 1, lines 55-58). However, **Krabbenborg** fails to teach the cooling and heat treatment steps following extrusion.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina Krylova whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Irina Krylova/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796